Grain Price OUTLOOK
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CORN: FIVE CONSECUTIVE LARGE CROPS?

JULY 2000 *Darrel Good*

Summary

The USDA's June *Acreage* Report revealed that U.S. producers had planted nearly 79.6 million acres of corn in 2000, up from 77.4 million planted in 1999 and nearly 1.7 million above March intentions. June 1 corn stocks were estimated at just under 3.6 billion bushels, nearly 30 million smaller than inventories of a year ago, but about 100 million more than expected.

At mid-July, the U.S. corn crop was making rapid progress toward maturity and was in generally good condition. The status of the crop points to another large crop in 2000. Even with an increase in consumption, stocks are likely to accumulate by the end of 2000-01 marketing year. Prices are expected to average near or below the Commodity Credit Corporation (CCC) loan rate for the third consecutive year. Pricing decisions will be centered around the use of the marketing loan program.

June 1 Stocks Surprisingly Large

In the June 1 *Grain Stocks* report released on June 30, the USDA estimated corn inventories at 3.587 billion bushels (Table 1). Those stocks are 29 million less than on the same date last year, but nearly 100 million bushels more than expected. After running well ahead of last year's pace during the first half of the marketing year, feed and residual use declined below the level of a year ago during the third quarter. That decline was surprising given the generally low price of corn, improving livestock prices, and the number of animal units being fed.

Given the reliability of the June 1 estimate of corn stocks, there is some chance that the 1999 crop was larger than the current estimate of 9.437 billion bushels. The September stocks estimate will shed more light on that issue. Typically, any revision in the crop estimate would not be made until January.

Last year, the estimate of feed and residual use of corn dropped off during the fourth quarter. The estimate was 80 million bushels below use during the summer of 1998. Given the extremely low price of corn again this year, along with the expansion in broiler production and a large number of cattle on feed in June, feed and residual use during the fourth quarter this year could exceed that of last year. If use comes in near 850 million bushels during the last quarter, the total for the year will be near a record 5.62 billion bushels (Table 2).

Exports Fall Off at Mid-Year

U.S. corn exports were relatively small in the summer of 1996 due to the shortage of supply. Shipments remained weak through the first quarter of the 1999 calendar year, pressured by large world grain supplies and the economic downturn in some Asian countries. Foreign coarse grain production was record large in 1996-97 and remained large through 1998-99 (Table 3). During that period, large crops were harvested in China, western Europe, and Argentina. U.S. corn exports mounted a recovery beginning in the spring of 1999. Summer exports were nearly record large and

exports remained brisk through the first calendar quarter of 2000. The recovery was stimulated by Asian economic recovery and a little less competition from other exporting countries.

During the third quarter of the 1999-00 marketing year, export shipments fell below the level of the same quarter in the previous year for the first time in two years. Large Chinese production and exports account for much of the slow down in U.S. exports. As of July 6, the USDA's weekly report of grain export inspections showed cumulative exports for the 1999-99 marketing year at 1.612 billion bushels, just 16 million less than on the same date last year. Shipments to Taiwan were up 26 percent, but exports to Mexico were down 13 percent and exports to South Korea were down nearly 50 percent. Shipments to the largest buyer, Japan, were up 4 percent. Japan accounted for one-third of the total imports of U.S. corn. Through April, the Census Bureau estimate of exports was very close to the USDA export inspection totals.

As of July 6, 269 million bushels of U.S. corn had been sold for export, but not yet shipped. That is about 12 million smaller than unshipped sales of a year ago. Forty-one percent of those sales were to Japan. Exports for the year (ending August 21, 2000) will apparently be near 1.9 billion bushels (Table 2). That compares to about 1.98 billion shipped last year.

With seed, food, and industrial use near 1.92 billion bushels, consumption of U.S. corn for all purposes is expected to be near 9.44 billion bushels during the current marketing year. That will leave year ending stocks near the level of stocks at the beginning of the year, right at 1.8 billion bushels.

Supply Prospects

In the June *Acreage* report, the USDA estimated 2000 corn plantings at 79.579 million acres (Table 4). That is 2.148 million more than planted last year and 1.698 million more than indicated in the March *Prospective Plantings* report. Compared to last year, corn acreage has increased in most major producing states. The largest increases were 700,000 acres in South Dakota and 400,000 acres in Illinois. Acreage declined in Indiana, Nebraska, and Wisconsin (Table 5).

In the first look at potential harvested acreage, the USDA projected corn acreage harvested for grain at 73.088 million, 2.55 million more than harvested last year and the most since 1981. That figure is subject to change depending on how the growing season ends. The potential is for unusually small abandoned acreage.

Planted and harvested acreage of sorghum is expected to be down 483,000 and 434,000, respectively; while planted and harvested acreage of barley is expected to be up 479,000 and 477,000, respectively. Harvested acreage of oats is expected to just about equal last year's total. At 88.9 million acres, harvested area of all feed grains is expected to be up 2.6 million acres form harvested area in 1999.

As of July 9, the 2000 corn crop was in generally good condition and was ahead of normal maturity progress. Seventy-four percent of the crop was rated in good or excellent condition and only percent was in poor to very poor condition. The highest rated crops, with 80 percent or more rated in good or excellent condition were in Illinois, Indiana, Kentucky, North Dakota, South Dakota, and Tennessee. The poorest crops, with 65 percent or less rated in good or excellent condition were in Colorado, Michigan, and Nebraska. Overall, the crop is not rated as highly as the 1999 crop was rated on the same date. Last year, 77 percent of the crop was rated in good to excellent condition as of July 7. That rating grew to 78 percent the following week, but declined to 63 percent by August 3 and to 57 percent by September 1. Late season dryness hurt the appearance of the crop, but the U.S. average yield was still slightly above trend at 133.8 bushels per acre (Table 6).

While crop condition ratings, and the models based on these ratings, are not necessarily a good indication of yield potential, the 2000 crop apparently has potential to exceed trend yield. August weather will be important, but it

appears that much of the crop will make it through pollination with minimum stress.

With harvested acreage of 73 million, a trend yield near 134 bushels in 2000 would produce a crop of 9.78 billion bushels. A repeat of the record yield of 1994 (138.6 bushels) would result in a crop of 10.1 billion bushels. The potential for a new record yield does exist, but would require favorable weather to persist through August. It now appears that the 2000 crop will be between 9.5 and 10.3 billion bushels. An estimate of 9.9 billion bushels is used here.

The production potential is substantially higher than outlined in the April issue of this newsletter. At that time, potential appeared to be between 8.8 and 9.7 billion bushels and a projection of 9.25 was used in the analysis. Both acreage and yield potential are higher than judged in April.

Stocks to Increase

Corn consumption is likely to increase again during the 2000-01 marketing year. The trend increase in food, seed, and industrial use is expected to continue, supported by ethanol consumption. Use for all purposes is projected at 2 billion bushels (Table 2). Exports are expected to be supported by reductions in Chinese production and exports. Acreage there is likely to decline (probably in favor of soybeans) as subsidies are reduced. Low grain prices and strong world economies will also be supportive to world feed consumption. Argentine and South African production of coarse grains is not expected to increase in the year ahead. Total foreign production is tentatively expected to decline modestly. An increase is expected in the former Soviet Union and the European Union but smaller crops are expected for China and Eastern Europe (Table 3). A forecast of U.S. corn exports of 2.1 billion bushels during the 2000-01 marketing year is used here.

Feed and residual use of corn should continue to be supported by a combination of low feed prices and profitable livestock prices. A 4 percent increase in broiler production is projected for the year ahead. The number of cattle in feed lots should begin to decline and remain below year previous levels during the 2000-01 marketing year. However, the June *Hogs and Pigs* report indicated that sow farrowings would begin to increase in the fall quarter of 2000. Increased hog numbers may offset the decline in the number of cattle being fed. Marketing weights will likely remain large as long as feeding margins are positive. Feed and residual use of corn is projected at 5.68 billion bushels.

U.S. corn consumed for all purposes is projected at 9.78 billion bushels. That projection is higher than most and may be somewhat optimistic. Even so, a crop of 9.9 billion bushels would allow year ending stocks to grow to over 1.9 billion bushels by September 1, 2001.

Price Prospects

Based on expectations of a smaller crop in 2000, the April newsletter projected that the average central Illinois daily cash price could move to the $2.30 to $2.40 range and that December futures might challenge the contract high of $2.975. Prices moved higher on the basis of weather and crop concerns, but fell short of the projected level. The average cash price of corn in central Illinois reached a high of $2.225 on May 3. The price fell short of expectations primarily because of an unusually weak basis. The basis never improved beyond $.23 under July futures, compared to $.16 under last year, and a “normal” $.10 under. December futures peaked at 2.7325 on May 3.

Improved weather and crop prospects pushed prices to new lows in early July. The average cash price in central Illinois declined to $1.57 on July 10 (only 2 months after the marketing year high was reached), $.12 under the harvest low, $.01 below the July low last year, and the lowest cash price in almost 13 years. December futures retreated to a low of $1.9275 on July 12.

If crop prospects remain in tact, further price declines might be expected. Ample old crop supplies and an early harvest of a large crop would surely keep extreme pressure on the basis. Cash prices might challenge, or even

drop below, the $1.45 low of September 1987. December futures would be expected to challenge the low of $1.8525 reached in December 1999 for the 1999 contract. That was also the low ($1.855) for the December 1988 futures contract (September 1987).

A shift to more unfavorable weather in late July and August, of course, would put a stop to the price decline and propel prices a bit higher into the harvest period. At this juncture, however, it appears unlikely that new crop prices will move back above the loan rate before harvest is completed. Generally low prices would be expected to persist until the market is given a reason to be concerned about supplies. That is more likely to come in the last half of the marketing year. For now, it appears that prices will average near, or below, the loan rate for the third consecutive year.

Pricing Strategies

A lesson learned again this year is "don't hold unpriced inventory beyond May 31 without some price protection". The corn for which loan deficiency payments (LDPs) were already collected, or was not put under loan before May 31, and held to the current point will receive a gross price below the loan rate (even before considering storage and interest costs).

Another lesson learned again this year is that you can have high prices (relatively speaking) and prospects for a large crop, but not simultaneously. Pricing opportunities present themselves when it is most difficult to sell (eg. National Weather Service warning of a drought). The window of pricing opportunity for the 2000 crop was relatively narrow this spring, although December futures traded above $2.50 for a good deal of the time from January through May. While many producers priced some of the new crop during that period, overall sales probably represent a small portion of what appears to be a large crop. Based on the price targets presented in this newsletter in April, no more than 30 percent of a trend yield would have been priced.

A third lesson being learned is that low prices are not a cure for low prices. Low prices encourage consumption but they do not, of their own, increase demand. Historically, low prices often resulted in a supply response through the annual acreage reduction program. That is no longer the case. Low prices do not lead to less acreage in the U.S. or any where else. As long as supplies are large, prices will remain low to encourage consumption. Prices will rise when supplies are small enough that a reduction in use is required.

Strategies for unpriced new crop corn will center around the use of the marketing loan program if prices remain depressed into harvest. Some combination of the following three strategies might be considered. Since all involve storage, the attractiveness will depend on the availability and cost of storage.

First, assuming that the spot basis remains unusually weak and that the posted county price (PCP) follows the cash price reasonably well, the LDP can be established at harvest and the corn priced for later delivery. If the forward bids also reflect an unacceptable basis, pricing could be done with hedged-to-arrive contracts. This strategy results in a price above the loan rate if the carry in the market (premium for later delivery) exceeds the cost of storage and interest.

Second, some corn could be placed under loan with the repayment rate (PCP) locked in for a period up to 60 days. This is more attractive than the first alternative if the expected post-harvest price recovery is greater than the current premium for later delivery. The loan serves as price protection in case that prices do not recover or actually go lower. At the end of the 60 days, the loan can be repaid at anytime at the daily repayment rate.

Third, if prices continue at low, or lower, levels into harvest, the LDP could be established on some portion of the crop that would be stored in anticipation of a price recovery. Again, the expected price recovery would need to be greater than the current premium for later delivery. There is obviously some risk to this strategy in that lower prices would result in a gross price below the loan rate.

A weak harvest time basis makes alternatives to storage – delayed pricing, basis contracts, replacing cash sales with futures and options –

quite expensive if the basis subsequently improves to normal levels. If storage is limited, or expensive, establishing the LDP and selling the crop at harvest may be an acceptable alternative.

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Table 1. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
	million pounds																		
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,437
TOTAL[a]	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,239
September-November																			
Seed, food, ind.	173	208	227	244	276	295	296	302	314	339	361	371	382	408	413	383	435	450	459
Export	519	443	493	503	415	318	396	471	582	381	421	488	435	449	660	487	380	450	534
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,485	1,619	1,673	1,813	1,702	1,965	1,782	1,890	2,030	2,091	2,210
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,021	3,203
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,025
Seed, food, ind.	166	192	212	236	262	281	288	301	314	331	363	366	378	408	401	394	425	434	447
Export	470	510	506	580	460	313	405	502	682	471	362	563	330	590	562	525	380	465	468
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,275	1,350	1,266	1,400	1,241	1,494	1,348	1,492	1,503	1,487	1,508
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,423
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602
Seed, food, ind.	201	228	253	294	307	333	337	353	375	383	414	413	422	450	429	465	470	495	520
Export	596	475	513	475	201	496	510	590	601	454	371	411	270	568	610	431	350	497	445
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	843	994	961	1,043	1,147	951	1,162	1,048	1,105	1,084	1,097	1,050
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,015
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,587
Seed, food, ind.	193	227	238	293	307	324	331	342	367	372	396	406	428	439	369	450	475	467	
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	343	394	569	
Feed, residual	739	781	527	603	499	761	843	685	628	681	813	892	790	849	530	814	875	796	
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,490	1,498	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,730	1,832	
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	
Annual																			
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,534	1,556	1,609	1,704	1,612	1,692	1,805	1,846	
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,026	2,368	1,725	1,584	1,663	1,328	2,177	2,228	1,795	1,504	1,981	
Feed, residual	4,245	4,573	3,876	4,115	4,115	4,660	4,789	3,941	4,382	4,611	4,798	5,252	4,685	5,471	4,708	5,302	5,482	5,472	
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,299	

[a] Includes imports for the entire year.

Table 2. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[a]	2000-01[a]
	million bushels											
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,799
Production	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,437	9,900
TOTAL[b]	9,465	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,239	11,709
Seed, food, industrial	1,370	1,425	1,534	1,556	1,609	1,704	1,612	1,692	1,782	1,846	1,920	2,000
Export	2,368	1,725	1,584	1,663	1,328	2,177	2,228	1,795	1,504	1,981	1,900	2,100
Feed and residual	4,382	4,611	4,798	5,252	4,685	5,471	4,708	5,302	5,505	5,472	5,620	5,680
TOTAL	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,440	9,780
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,799	1,929
U.S. average price	$2.36	$2.28	$2.37	$2.07	$2.50	$2.26	$3.24	$2.71	$2.45	$1.94	$1.80	$1.75

[a] Projected

[b] Includes imports

Table 3. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	million metric tons																	
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.4	277.8
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	37.9	40.9	44.4
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	103.1	108.7
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	138.6	132.6
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.7	54.6	44.3
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	27.8
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	28.5	31.5
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	34.4	34.6
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	20.5	20.8
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.2	10.1	9.9
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.2	876.0	888.3
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.7	612.6	610.5

Source: USDA, FAS, World Crop Production, July 2000 and earlier issues.

Table 4. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

	Planted Acreage				
Year	February/January Intentions	March Intentions	June Intentions	Actual	Harvested Acreage
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	…	83,977	84,677	84,097	74,524
1982	…	84,735	82,129	81,857	72,719
1983	69,569[a]	58,812	60,129	60,217	51,479
1984	…	81,766	79,940	80,617	71,897
1985	…	82,021	83,217	83,398	75,209
1986	…	78,066	76,646	76,580	68,907
1987	…	67,556	66,024	66,200	59,505
1988	…	66,926	67,519	67,717	58,250
1989	…	73,253	72,790	72,322	64,783
1990	…	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,431	70,537
2000		77,881	79,579		(73,088)

[a] February

Table 5. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
					thousand acres						
Georgia	660	600	750	650	600	400	580	550	500	350	400
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,400
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,420
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,100
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,950
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,400
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300
Tennessee	620	620	740	660	670	640	770	700	700	630	650
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,000
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,431	79,579

Table 6. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	bushels per acre																								
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	…	…	…	…	…	…	87.0											
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	

Table 7. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
								million metric tons								
United States	65.9	70.6	66.0	56.9	57.4	49.3	55.4	74.5	53.9	67.1	65.2	63.2	59.4	62.0	67.5	69.4
Former USSR	79.0	68.6	78.1	92.3	83.3	84.4	92.3	100.3	72.0	89.7	83.3	59.9	59.3	63.3	80.5	56.9
Western Europe	68.0	87.4	75.7	76.3	75.4	78.5	86.4	89.9	94.7	88.5	83.9	84.5	86.2	98.5	94.2	103.4
China	81.4	87.8	85.8	90.0	85.8	85.4	90.8	98.2	96.0	101.6	106.4	99.3	102.2	110.6	123.3	110.0
Eastern Europe	35.4	42.1	37.1	39.2	39.9	44.8	40.7	41.3	38.5	26.4	30.6	34.0	35.0	26.1	34.4	33.9
India	42.8	45.5	44.1	47.1	44.3	46.2	54.1	49.9	55.1	55.7	57.2	59.8	65.5	62.1	69.3	66.1
Canada	26.6	21.2	24.3	31.4	26.0	16.0	24.6	32.1	32.0	29.9	27.2	23.1	25.0	29.8	24.3	24.4
Australia	22.0	18.7	16.2	16.1	12.4	14.1	14.2	15.1	10.6	16.2	16.5	8.9	16.5	23.7	19.4	21.0
Argentina	12.8	13.2	8.5	8.9	8.8	8.4	10.2	10.9	9.9	9.8	9.4	11.3	8.6	15.9	14.8	10.3
Pakistan	10.9	11.7	13.9	12.0	12.7	14.4	14.4	14.4	14.6	15.7	16.2	15.2	17.0	16.9	16.7	18.7
Turkey	13.3	12.7	14.0	13.0	15.0	12.5	16.0	16.0	16.5	15.5	16.5	14.7	15.5	16.0	16.0	16.5
World	491.0	511.6	500.1	530.7	501.7	500.8	537.6	588.1	542.1	561.8	559.1	524.6	537.5	582.7	609.7	585.7
Excluding the U.S.	425.1	441.0	434.1	473.7	444.4	451.5	482.2	513.6	488.4	494.7	493.9	461.3	478.1	520.8	542.2	516.3

Source: USDA, FAS, World Crop Production, June 1999 and earlier issues.

Table 1. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
									million bushels										
July	7,116	…	…	…	…	…	…	5,200											
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	9,437
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	